

IN THE CLAIMS:

1. (Original) A nucleic acid molecule comprising a nucleic acid sequence encoding at least one complementary determining region (CDR) of a variable region of an antibody, wherein said at least one CDR alone or in combination with at least one more CDR being sufficient for contributing at least a weak but significant binding of the antibody to the extracellular domain of the human zeta-chain and said antibody being obtainable by immunizing a rat with Jurkat cells and subsequently with a conjugate comprising a carrier molecule and a peptide comprising the 11 N-terminal amino acids of the rat zeta-chain.

2. (Original) The nucleic acid molecule of claim 1 wherein said nucleic acid molecule comprises a nucleic acid sequence encoding at least two CDRs of said variable region.

3. (Original) The nucleic acid molecule of claim 1 or 2, wherein said nucleic acid molecule comprises a nucleic acid sequence encoding three cdrs of said variable region.

4. (Original) The nucleic acid molecule of any one of claims 1 to 3 wherein said nucleic acid sequence encodes a V_H chain.

5. (Original) The nucleic acid molecule of any one of claims 1 to 3 wherein said nucleic acid sequence encodes a V_L chain.

6. (Original) The nucleic acid molecule of any one of claims 1 to 5 which is a DNA molecule.

7. (Original) A nucleic acid molecule comprising a nucleic acid sequence encoding at least two CDRs of a variable region of a V_H chain, said antibody specifically interacting with the extracellular domain of the human zeta chain said antibody being obtainable by immunizing a rat with Jurkat cells and subsequently with a conjugate comprising a carrier molecule and a peptide comprising the 11 N-terminal amino acids of the rat zeta-chain.

8. (Original) A nucleic acid molecule comprising a nucleic acid sequence encoding at least two CDRs of a variable region of a V_L chain, said antibody specifically interacting with the extracellular domain of the human zeta chain said antibody being obtainable by immunizing a rate with Jurkat cells and subsequently with a conjugate comprising a carrier molecule and a peptide comprising the 11 N-terminal amino acids of the rat zeta-chain.

9. (Original) The nucleic acid molecule of any one of claim 1 to 8 wherein said CDR has one of the following nucleotide sequences:

- (a) SEQ ID No. 1
- (b) SEQ ID No. 3
- (c) SEQ ID No. 5
- (d) SEQ ID No. 7
- (e) SEQ ID No. 9
- (f) SEQ ID No. 11

10. (Original) The nucleic acid molecule of claim 4 wherein said V_H -chain has the nucleotide sequence of SEQ ID No. 13 or encodes the amino acid sequence of

SEQ ID No. 14.

11. (Original) The nucleic acid molecule of claim 5 wherein said V_L-chain has the nucleotide sequence of SEQ ID No. 15 or encodes the amino acid sequence of SEQ ID No. 16.

12. (Original) The nucleic acid molecule of claim 7, wherein said V_H chain has the nucleotide sequence of SEQ ID No:13 or encodes the amino acid sequence of SEQ ID No: 14.

13. (Original) The nucleic acid molecule of claim 7, wherein said V_L chain has the nucleotide sequence of SEQ ID No: 15 or encodes the amino acid sequence of SEQ ID No: 16.

14. (Original) The nucleic acid molecule of any one of claim 1 to 8 wherein said CDR has one of the following nucleotide sequences:

- (a) SEQ ID No. 2
- (b) SEQ ID No. 4
- (c) SEQ ID No. 6
- (d) SEQ ID No. 8
- (e) SEQ ID No. 10
- (f) SEQ ID No. 12

15. (Original) A vector comprising the nucleic acid molecule of any one of claims 1 to 14.

16. (Original) A host transformed or transfected with the vector of claim 15.
17. (Original) A method of producing a (poly)peptide encoded by the nucleic acid molecule of any one of claims 1 to 14 comprising culturing the host of claim 16 under suitable conditions and isolating said (poly)peptide from the culture.
18. (Original) A (poly)peptide encoded by the nucleic acid molecule of any of claims 1 to 14 or produced by the method of claim 17.
19. (Currently Amended) An antibody or fragment or derivative thereof comprising at least one variable region, which specifically binds the extracellular domain of the human zeta-chain, comprising [at least one (poly)peptide of claim 18] at least one complementary determining region (CDR) of said variable region, wherein said CDR is encoded by a nucleic acid as set forth in SEQ ID NO: 1, SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, or SEQ ID NO: 11; or wherein said CDR comprises the amino acid sequence as set forth in SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 10, or SEQ ID NO: 12.
20. (Original) The derivative of claim 15 which is an scFv chain.
21. (Original) The antibody of claim 16 which is an IgM.
22. (Original) A dispecific receptor comprising a (poly)peptide of claim 14 and a natural receptor, natural ligand or derivatives thereof interacting with a surface molecule on the same or on another cell, wherein preferably said receptors or ligands are CD4, CTLA-4, B7-1, LFA-3, ICAM-1, -2, -3 or chemokines like MIP-1 α , MIP-1 β , RANTES or SDF-1.

23. (Currently Amended) The antibody of claim 21, wherein the first specificity is for the extracellular domain of the human zeta-chain on the surface of an intact cell and the second specificity is for a different molecule on the surface of a different cell, wherein said different molecule is other than the human zeta-chain.

24. (Original) Use of the antibody of claim 18 for the preparation of a pharmaceutical composition for the treatment or prevention of autoimmune diseases, immune deficiencies, T-cell malignancies, infectious diseases or for the suppression of immune response preferably in order to avoid graft rejection after organ transplantation.

25. (Original) Use of the antibody claim 19 for the preparation of a pharmaceutical composition of the treatment or prevention of malignancies, viral infections, or other infectious diseases.

26. (Original) Use of the (poly)peptide of claim 14 or the antibody or fragment or derivative thereof of any one of claims 15 to 21 or the bispecific receptor of claim 22 for the preparation of a pharmaceutical composition for the enhancement or suppression of NK-cell dependent immunity or for the treatment of NK-cell derived malignancies.

27. (Original) The derivative of claim 19 which is an scFv chain.

28. (Original) The antibody of claim 20 which is an IgM.

29. (Original) A bispecific receptor comprising a (poly)peptide of claim 18 and a natural receptor, natural ligand or derivative thereof interacting with a surface molecule of the same or on another cell.

30. (Original) The bispecific receptor of claim 29, wherein said receptors or ligands are CD4, CTLA-4, B7-1, B7-2, LFA-3, ICAM-1, -2, -3 or chemokines like MIP-1 α , MIP-1 β , RANTES or SDF-1.

31. (Currently Amended) A pharmaceutical composition comprising [the nucleic acid molecule of any of claims 1 to 14, the vector of claim 15, the host of claim 16, the (poly)peptide of claim 18,] the antibody or fragment or derivative thereof of any one of claims 19, 20, 21, 22, 23, 24, 27 or 28 [and/or the bispecific receptor of claim 29 or 30].

32. (Currently Amended) A pharmaceutical composition comprising [Use of] the antibody of claim 22 and a pharmaceutically acceptable carrier for the [preparation of a pharmaceutical composition for the] treatment or prevention of autoimmune diseases, immune deficiencies, T-cell malignancies, infectious diseases or for the suppression of the immune response.

33. (Currently Amended) The pharmaceutical composition [use] of claim 32, wherein suppression of immune response is [to be in order] to avoid graft rejection after organ transplantation.

34. (Currently Amended) A pharmaceutical composition comprising [Use of] the antibody of claim 23 and a pharmaceutically acceptable carrier for the [preparation of a pharmaceutical composition of the] treatment or prevention of malignancies, viral infections, or other infectious diseases.

35. (Currently Amended) A method of preparing [Use of the

(poly)peptide of claim 18 or the antibody or fragment or derivative thereof of any one of claims 19-28 or the bispecific receptor of claim 29 or 30 for the preparation of] a pharmaceutical composition for the enhancement or suppression of NK-cell dependent immunity or for the treatment of NK-cell derived malignancies comprising combining an antibody or fragment or derivative thereof of any one of claims 19, 20, 21, 22, 23, 24, 27 or 28 with a pharmaceutically acceptable carrier.

36. (Original) A method for the determination of zeta-chain or eta-chain expression on NK-cells, T-lymphocytes or precursors thereof comprising

(a) contacting the (poly)peptide of claim 18 or the antibody or fragment or derivative thereof of any one claims 19 to 28 with said NK-cells, T-lymphocytes or precursors thereof; and

(b) assessing the amount of bound (poly)peptide, antibody or derivative.

37. (Currently Amended) A kit comprising [nucleic acid molecule of any one of claims 1 to 14, the vector of claim 15, the host of claim 14, the (poly)peptide of claim 18,] the antibody or fragment or derivative thereof of any one of claims 19, 20, 21, 22, 23, 24, 27 or 28 [and/or the bispecific receptor of claim 29 or 30].

38. (Original) A non-human transgenic animal comprising in its germline at least one copy of the nucleic acid molecule of any of claims 1 to 14 or the vector of claim 15.

39. (Currently Amended) An antibody or fragment or derivative thereof

encoded by a nucleic acid molecule comprising a nucleic acid sequence encoding at least one complementary determining region (CDR) of a variable region of an immunoglobulin [antibody], said antibody or fragment or derivative thereof specifically interacting with the extracellular domain of the human zeta chain on the surface of an intact cell, said [antibody] immunoglobulin being obtainable by immunizing a rat with Jurkat cells and subsequently with a conjugate comprising a carrier molecule and a peptide comprising the 11 N-terminal amino acids of a rat zeta chain.

40. (Previously Added) An antibody or fragment or derivative thereof encoded by the nucleic acid molecule of claim 39 wherein said nucleic acid molecule comprises a nucleic acid sequence encoding at least two CDRs of said variable region.

41. (Previously Added) An antibody or fragment or derivative thereof encoded by the nucleic acid molecule of claim 39 or 40, wherein said nucleic acid molecule comprises a nucleic acid sequence encoding three CDRs of said variable region.

42. (Currently Amended) An antibody or fragment or derivative thereof encoded by the nucleic acid molecule of [any one of] claim[s] 39 or [to] 40[1] wherein said nucleic acid sequence encodes a V_H chain.

43. (Currently Amended) An antibody or fragment or derivative thereof encoded by the nucleic acid molecule of [any one of] claim[s] 39 or [to] 40[1] wherein said nucleic acid sequence encodes a V_L chain.

44. (Currently Amended) An antibody or fragment or derivative thereof encoded by the nucleic acid molecule of [any one of] claim[s] 39 or [to] 40[3] which is a

DNA molecule.

45. (Currently Amended) An antibody or fragment or derivative thereof encoded by a nucleic acid molecule comprising a nucleic acid sequence encoding at least two CDRs of a V_H chain [said antibody] of an immunoglobulin, said antibody or fragment or derivative specifically interacting with the extracellular domain of the human zeta-chain on the surface of an intact cell, said immunoglobulin [antibody] being obtainable by immunizing a rat with Jurkat cells and subsequently with a conjugate comprising a carrier molecule and a peptide comprising the 11 N-terminal amino acids of rat zeta-chain.

46. (Currently Amended) An antibody or fragment or derivative thereof [comprising] encoded by a nucleic acid sequence encoding at least two CDRs of a V_L chain of an immunoglobulin, [antibody], said antibody or fragment or derivative specifically interacting with the extracellular domain of the human zeta-chain on the surface of the intact cell, said immunoglobulin [antibody] being obtainable by immunizing a rat with Jurkat cells and subsequently with a conjugate comprising a carrier molecule and a peptide comprising the 11 N-terminal amino acids of rat zeta-chain.

47. (Currently Amended) An antibody or fragment or derivative thereof comprising a variable region which specifically binds to the extracellular domain of the human zeta-chain [encoded by the nucleic acid molecule of anyone of claims 39 to 44 wherein said CDR has one of the following nucleotide sequences], wherein at least one CDR of said variable region is encoded by:

(a) SEQ ID No. 1

- (b) SEQ ID No. 3
- (c) SEQ ID No. 5
- (d) SEQ ID No. 7
- (e) SEQ ID No. 9
- (f) SEQ ID No. 11.

48. (Currently Amended) An antibody or fragment or derivative thereof encoded by [the] a nucleic acid comprising the nucleic acid molecule of claim 42, wherein said V_H-chain [has] is encoded by a nucleic acid comprising the [nucleotide] sequence of SEQ ID No. 13 or [encodes] comprises the amino acid sequence of SEQ ID No. 14.

49. (Currently Amended) An antibody or fragment or derivative thereof encoded by [the] a nucleic acid comprising the nucleic acid molecule of claim 43, wherein said V_L-chain [has] is encoded by a nucleic acid comprising the [nucleotide] sequence of SEQ ID No. 15 or [encodes] comprises the amino acid sequence of SEQ ID No. 16.

50. (Currently Amended) An antibody or fragment or derivative thereof encoded by [the] a nucleic acid comprising the nucleic acid molecule of claim 45, wherein said V_H-chain [has] is encoded by a nucleic acid comprising the [nucleotide] sequence of SEQ ID No. 13 or [encodes] comprises the amino acid sequence of SEQ ID No. 14.

51. (Currently Amended) An antibody or fragment or derivative thereof encoded by [the] a nucleic acid comprising the nucleic acid molecule of claim 46,

wherein said V_L-chain [has] is encoded by a nucleic acid comprising the [nucleotide] sequence of SEQ ID No. 15 or [encodes] comprises the amino acid sequence of SEQ ID No. 16.

52. (Currently Amended) An antibody or fragment or derivative thereof comprising a variable region which specifically binds to the extracellular domain of the human zeta-chain [encoded by the nucleic acid molecule of anyone of claims 39 to 44] wherein [said] at least one CDR of said variable region comprises [encodes] one of the following amino acid sequences:

- (a) SEQ ID No. 2;
- (b) SEQ ID No. 4;
- (c) SEQ ID No. 6;
- (d) SEQ ID No. 8;
- (e) SEQ ID No. 10; or
- (f) SEQ ID No. 12.

53. (Currently Amended) A vector comprising a nucleic acid molecule encoding an antibody or fragment or derivative of any one of claims 39, 40, 45, 46, 47, 48, 49, 50, 51 or 52 [to 52].

54. (Currently Amended) A host transfected with a vector according to claim 53 [and producing an antibody or fragment or derivative thereof of any one of claims 39 to 52].

55. (Currently Amended) A method of producing an antibody or fragment or derivative thereof [encoded by the nucleic acid molecule of any one of claims 39 to

52] comprising culturing the host of claim 54 under suitable conditions and isolating said antibody or fragment or derivative thereof from the culture.

56. (Currently Amended) The antibody of any one of claims 39, 40, 45, 46, 47, 50, 51 or [to] 52 which is a monoclonal antibody.

57. (Currently Amended) The antibody of any one of claims 39, 40, 45, 46, 47, 50, 51 or [to] 52 which is a bispecific antibody.

58. (Previously Added) The antibody of claim 57 wherein the first specificity is for the extracellular domain of the human zeta-chain on the surface of an intact cell and the second specificity is for an optionally different molecule on the surface of a T-lymphocyte, a natural killer cell or a precursor thereof.

59. (Previously Added) The antibody of claim 57 wherein the first specificity is for the extracellular domain of the human zeta-chain on the surface of an intact cell and the second specificity is for a different molecule on the surface of a different cell.

60. (Previously Added) The antibody of claim 59, wherein said different cell is a cell different from a T-cell, an NK-cell or a precursor thereof.

61. (Previously Added) The antibody of claim 59 or 60 wherein said different molecule is a virus encoded antigen, a tumor-associated antigen or a surface antigen either on antigen presenting cells (APCs) or on non-APCs.

62. (Previously Added) The antibody of claim 61, wherein the APC is a dendritic cell.

63. (Currently Amended) The derivative of any one of claims 39, 40, 45, 46, 47, 50, 51 or [to] 52 which is an scFv chain.

64. (Previously Added) The antibody of claim 56 which is an IgM.

65. (Previously Added) The bispecific antibody of claim 57 which is characterized by the amino acid sequence of SEQ ID NO: 18.

66. (Currently Amended) A pharmaceutical composition comprising the antibody or fragment or derivative thereof of any one of claims 39, 40, 45, 46, 47, 50, 51 or [to] 52 [and/or antibody or fragment or derivative thereof of any one of claims 56-65] and a pharmaceutically acceptable carrier.

67. (Previously Added) A method for the treatment or prevention of autoimmune diseases, immune deficiencies, T-cell -malignancies, infectious diseases or for the suppression of immune response-preferably in order to avoid graft rejection after organ transplantation said method comprising the step of administering an antibody or fragment or derivative thereof of any one of claims 39 to 52, and/or of any one of claims 56 to 65.

68. (Previously Added) A method for the treatment or prevention of malignancies, viral infections or other infectious diseases said method comprising the step of administering an antibody or fragment or derivative thereof of any one of claims 39 to 52, and/or of any one of claims 56 to 65.

69. (Previously Added) A method for the enhancement or suppression of NK-cell dependent immunity or for the treatment of NK-cell derived malignancies said

method comprising the step of administering an antibody or fragment or derivative thereof of any one of claims 39 to 52, and/or of any one of claims 56 to 65.

70. (Currently Amended) A kit comprising the antibody or fragment or derivative thereof of any one of claims 39, 40, 45, 46, 47, 50, 51 or [to] 52 [, and/or the antibody or fragment or derivative thereof of any one of claims 56 to 65].

71. (New) The antibody or fragment or derivative of claim 19, wherein at least two CDRs comprising said variable region are encoded by a nucleic acid as set forth in SEQ ID NO: 1, SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, or SEQ ID NO: 11; or wherein said CDRs comprise the amino acid sequence as set forth in SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 10, or SEQ ID NO: 12.

72. (New) The antibody or fragment or derivative of claim 19, wherein three CDRs comprising said variable region are encoded by a nucleic acid as set forth in SEQ ID NO: 1, SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, or SEQ ID NO: 11; or wherein said CDRs comprise the amino acid sequence as set forth in SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 10, or SEQ ID NO: 12.

73. (New) The antibody or fragment or derivative of claim 19, comprising two variable regions, wherein at least one complementary determining region (CDR) comprising said two variable regions is encoded by a nucleic acid as set forth in SEQ ID NO: 1, SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, or SEQ ID NO: 11; or wherein said CDR comprises the amino acid sequence as set forth in SEQ ID NO: 2,

SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 10, or SEQ ID NO: 12.

74. (New) The antibody or fragment or derivative of claim 73, wherein at least two CDRs comprising said two variable regions are encoded by a nucleic acid as set forth in SEQ ID NO: 1, SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, or SEQ ID NO: 11; or wherein said CDRs comprise the amino acid sequence as set forth in SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 10, or SEQ ID NO: 12.

75. (New) The antibody or fragment or derivative of claim 73, wherein three CDRs comprising said two variable regions are encoded by a nucleic acid as set forth in SEQ ID NO: 1, SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, or SEQ ID NO: 11; or wherein said CDRs comprise the amino acid sequence as set forth in SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 10, or SEQ ID NO: 12.

76. (New) The antibody or fragment or derivative of claim 19, comprising at least one V_H chain in said variable region, wherein at least one complementary determining region (CDR) comprising said variable region is encoded by a nucleic acid as set forth in SEQ ID NO: 1, SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, or SEQ ID NO: 11; or wherein said CDR comprises the amino acid sequence as set forth in SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 10, or SEQ ID NO: 12.

77. (New) The antibody or fragment or derivative of claim 76, wherein at least two CDRs comprising said variable region are encoded by a nucleic acid as set forth in

SEQ ID NO: 1, SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, or SEQ ID NO: 11; or wherein said CDRs comprise the amino acid sequence as set forth in SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 10, or SEQ ID NO: 12.

78. (New) The antibody or fragment or derivative of claim 76, wherein three CDRs comprising said variable region are encoded by a nucleic acid as set forth in SEQ ID NO: 1, SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, or SEQ ID NO: 11; or wherein said CDRs comprise the amino acid sequence as set forth in SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 10, or SEQ ID NO: 12.

79. (New) The antibody or fragment or derivative of claim 19, comprising at least one V_L chain in said variable region, wherein at least one complementary determining region (CDR) comprising said variable region is encoded by a nucleic acid as set forth in SEQ ID NO: 1, SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, or SEQ ID NO: 11; or wherein said CDR comprises the amino acid sequence as set forth in SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 10, or SEQ ID NO: 12.

80. (New) The antibody or fragment or derivative thereof of claim 79, wherein at least two CDRs comprising said variable region are encoded by a nucleic acid as set forth in SEQ ID NO: 1, SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, or SEQ ID NO: 11; or wherein said CDRs comprise the amino acid sequence as set forth in SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 10, or SEQ ID NO: 12.

81. (New) The antibody or fragment or derivative thereof of claim 79, wherein three CDRs comprising said variable region are encoded by a nucleic acid as set forth in SEQ ID NO: 1, SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, or SEQ ID NO: 11; or wherein said CDRs comprise the amino acid sequence as set forth in SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 10, or SEQ ID NO: 12.

82. (New) The antibody or fragment or derivative of claim 73, comprising at least one V_H chain in each said variable region, wherein at least one complementary determining region (CDR) comprising said variable regions is encoded by a nucleic acid as set forth in SEQ ID NO: 1, SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, or SEQ ID NO: 11; or wherein said CDR comprises the amino acid sequence as set forth in SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 10, or SEQ ID NO: 12.

83. (New) The antibody or fragment or derivative of claim 82, wherein at least two CDRs comprising said variable regions are encoded by a nucleic acid as set forth in SEQ ID NO: 1, SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, or SEQ ID NO: 11; or wherein said CDRs comprise the amino acid sequence as set forth in SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 10, or SEQ ID NO: 12.

84. (New) The antibody or fragment or derivative of claim 82, wherein three CDRs comprising said variable regions are encoded by a nucleic acid as set forth in SEQ ID NO: 1, SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, or SEQ ID NO: 11; or wherein said CDRs comprise the amino acid sequence as set forth in SEQ

ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 10, or SEQ ID NO: 12.

85. (New) The antibody or fragment or derivative of claim 73, comprising at least one V_L chain in each said variable region, wherein at least one complementary determining region (CDR) comprising each said variable region is encoded by a nucleic acid as set forth in SEQ ID NO: 1, SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, or SEQ ID NO: 11; or wherein said CDR comprises the amino acid sequence as set forth in SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 10, or SEQ ID NO: 12.

86. (New) The antibody or fragment or derivative of claim 85, wherein at least two CDRs comprising said variable regions are encoded by a nucleic acid as set forth in SEQ ID NO: 1, SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, or SEQ ID NO: 11; or wherein said CDRs comprise the amino acid sequence as set forth in SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 10, or SEQ ID NO: 12.

87. (New) The antibody or fragment or derivative of claim 85, wherein three CDRs comprising said variable regions are encoded by a nucleic acid as set forth in SEQ ID NO: 1, SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, or SEQ ID NO: 11; or wherein said CDRs comprise the amino acid sequence as set forth in SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 10, or SEQ ID NO: 12.

88. (New) The antibody or fragment or derivative of claim 19, comprising at

least one V_H chain and at least one V_L chain in said variable region, wherein at least one complementary determining region (CDR) comprising said variable region is encoded by a nucleic acid as set forth in SEQ ID NO: 1, SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, or SEQ ID NO: 11; or wherein said CDR comprises the amino acid sequence as set forth in SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 10, or SEQ ID NO: 12.

89. (New) The antibody or fragment or derivative of claim 88, wherein at least two CDRs comprising said variable region are encoded by a nucleic acid as set forth in SEQ ID NO: 1, SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, or SEQ ID NO: 11; or wherein said CDRs comprise the amino acid sequence as set forth in SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 10, or SEQ ID NO: 12.

90. (New) The antibody or fragment or derivative of claim 88, wherein three CDRs comprising said variable region are encoded by a nucleic acid as set forth in SEQ ID NO: 1, SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, or SEQ ID NO: 11; or wherein said CDRs comprise the amino acid sequence as set forth in SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 10, or SEQ ID NO: 12.

91 (New) The antibody or fragment or derivative of claim 19, comprising two variable regions, each containing a V_H chain and a V_L chain, wherein at least one complementary determining region (CDR) comprising said variable regions is encoded by a nucleic acid as set forth in SEQ ID NO: 1, SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, or SEQ ID NO: 11; or wherein said CDR comprises the amino

acid sequence as set forth in SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 10, or SEQ ID NO: 12.

92. (New) The antibody or fragment or derivative of claim 91, wherein at least two CDRs comprising said variable regions are encoded by a nucleic acid as set forth in SEQ ID NO: 1, SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, or SEQ ID NO: 11; or wherein said CDRs comprise the amino acid sequence as set forth in SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 10, or SEQ ID NO: 12.

93. (New) The antibody or fragment or derivative of claim 91, wherein three CDRs comprising said variable regions are encoded by a nucleic acid as set forth in SEQ ID NO: 1, SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, or SEQ ID NO: 11; or wherein said CDRs comprise the amino acid sequence as set forth in SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 10, or SEQ ID NO: 12.

94. (New) The antibody of any one of claims 71-93, wherein said antibody is a monoclonal antibody.

95. (New) The antibody of any one of claims 71-93, wherein said antibody is a bispecific antibody.

96. (New) The fragment of any one of claims 71-93, wherein said fragment is an Fab fragment.

97. (New) The antibody of any one of claims 88-90, wherein said antibody is

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an scFv antibody.